

**UNITED STATES DISTRICT COURT
DISTRICT OF MASSACHUSETTS**

SINGULAR COMPUTING LLC,

Plaintiff,

v.

GOOGLE LLC,

Defendant.

Civil Action No. 1:19-cv-12551-FDS

**PLAINTIFF'S MEMORANDUM OF LAW IN SUPPORT OF ITS
MOTION TO DEEM ADMITTED DEFENDANT'S INCOMPLETE AND
NON-RESPONSIVE ANSWERS TO THE AMENDED COMPLAINT**

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ATTORNEYS FOR THE PLAINTIFF

Pursuant to Fed. R. Civ. P. 8(b)(6), plaintiff, Singular Computing LLC (“Singular”), hereby moves to have deemed admitted the incomplete and non-responsive answers of defendant, Google LLC (“Google”) to paragraphs 15, 19-20 and 25 of the Amended Complaint (“AC”). Notwithstanding Singular’s multiple requests, Google has refused to provide complete responses. Accordingly, an Order deeming the allegations at issue admitted is now appropriate and warranted.

I. FACTUAL BACKGROUND

The operative pleading is the Amended Complaint that Singular filed on March 20, 2020 (“AC”). *See* Dkt. No. 37. The AC alleges that Google has infringed U.S. Patent Nos. 8,407,273 (“the ’273 Patent”), 9,218,156 (“the ’156 Patent”) and 10,416,961 (“the ’961 Patent”). The AC further alleges that Google’s infringement of the ’273 Patent and the ’156 Patent was willful. AC at ¶ 16.

As described *infra*, Singular’s allegations of willful infringement are based upon several meetings between the inventor (Dr. Joseph Bates) and numerous engineers at Google, during which Dr. Bates disclosed his new Low Precision High Dynamic Range (“LPHDR”) invention to Google and advised Google that the invention was patent protected. *See, e.g.*, AC at ¶¶ 15-19.

At the time of those meetings, Google was having problems with its installed high precision computers used, *inter alia*, to provide artificial intelligence (“AI”) services such as Google Translate, Photos, Search, Assistant and Gmail. *Id.*, at 15. According to Google, its inability to keep up with the computing demands necessary to expand and continue these AI services was a “scary and daunting” situation. *Id.* As alleged in the AC, Google copied Dr. Bates’ LPHDR invention and incorporated the patented technology into Google’s Cloud Tensor Processing Unit (“TPU”) computer versions 2 and 3 (“TPUv2” and “TPUv3”). *Id.*, at ¶¶ 21-29.

The AC also alleges that Google retrofitted its then-existing high precision computer systems throughout the United States with the accused TPUv2 and TPUv3 computers, thereby saving billions of dollars versus had Google continued to use those high precision computers. *Id.* at ¶¶ 25-26.

II. LEGAL STANDARDS

Pursuant to Fed. R. Civ. P. 8(b)(4) and (6):

(2) *Denials – Responding to the Substance.* A denial must fairly respond to the substance of the allegation.

(4) *Denying Part of an Allegation:* A party that intends in good faith to deny only part of an allegation must admit the part that is true and deny the rest.

(6) *Effect of Failing to Deny:* An allegation – other than one relating to the amount of damages – is admitted if a responsive pleading is required and the allegation is not denied. If a responsive pleading is not required, an allegation is considered denied or avoided.

Pursuant to Fed R. Civ. P. 11(b)(1), a pleading must not be filed for any improper purpose, such as “to cause unnecessary delay, or needlessly increase the cost of litigation.” A party responding to a complaint “is subject to the requirements of honesty in pleading.” *Kegerise v. Susquehanna Township Sch. Dist.*, 321 F.R.D. 121, 124 (M.D. Pa. 2016) (quoting *David v. Crompton & Knowles Corp.*, 58 F.R.D. 444, 446 (E.D. Pa. 1973)); *see also* Fed. R. Civ. P. 11(b)(4). Accordingly, the Court may deem a “deficient” response to an allegation as having been admitted. *See, e.g., Gross v. Weinburg, Weinstein & Fox, LLC*, 123 F. Supp. 3d 575, 582 (D. Del. 2013).

Willfulness is solely a question of fact. *See, e.g., Exmark Mfg. Co. v. Briggs & Stratton Power Prods. Grp.*, 879 F.3d 1332, 1353 (Fed. Cir. 2018) (“the entire willfulness determination is to be decided by the jury”). “The sort of conduct warranting enhanced damages has been variously described in [the Supreme Court’s] cases as willful, wanton, malicious, bad-faith,

deliberate, consciously wrongful, flagrant, or – indeed characteristic of a pirate.” *Halo Elecs. Inc. v Pulse Elecs., Inc.*, 136 S. Ct. 1923, 1933 (2016); *see also SiOnyx, LLC v. Hamamatsu Photonics K.K.*, 330 F. Supp. 3d 574, 608 (D. Mass. 2018). Factors relevant to this broad definition of willful infringement include: (1) the accused infringer’s knowledge of the patents-in-suit; and (2) whether the accused infringer knew, or should have known, that its conduct amounted to infringement. *See, e.g., Canon, Inc. v. Avigilon USA Corp.*, 411 F. Supp. 3d 162, 165 (D. Mass. 2019).

III. ARGUMENT

Pursuant to Fed. R. Civ. P. 1, the Rules should be implemented to secure the “just, speedy, and inexpensive determination of every action and proceeding.” Singular’s detailed allegations of willfulness in the AC are directed to basic factual information that is in the possession of Google. Google’s attempts to evade answering Singular’s allegations fully should not be allowed.

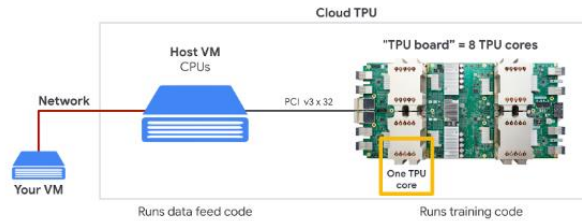
A. PARAGRAPH 20

Paragraph 20 of the AC is basic. It simply alleges that Google knew or should have known of the ’273 Patent and the ’156 Patent prior to launching the accused TPU v2 product, and identifies the product:

20. Google knew or should have known of the ’273 and ’156 patents prior to the launch of the accused Cloud Tensor Processing Unit Version 2 (TPUv2 Device) in May 2017.

Cloud TPU

When you request one "Cloud TPU v2" on Google Cloud Platform, you get a virtual machine (VM) which has a PCI-attached TPU board. The TPU board has four dual-core TPU chips. Each TPU core features a VPU (Vector Processing Unit) and a 128x128 MXU (Matrix multiply Unit). This "Cloud TPU" is then usually connected through the network to the VM that requested it. So the full picture looks like this:



TPU versions

Each TPU version defines the specific hardware characteristics of a TPU device. The TPU version defines the architecture for each TPU core, the amount of high-bandwidth memory (HBM) for each TPU core, the interconnects between the cores on each TPU device, and the networking interfaces available for inter-device communication.

Nonetheless, Google's response is evasive and incomplete:

ANSWER: This paragraph sets forth argument and legal conclusions to which no response is required. To the extent this paragraph includes any allegations to which a response is required, Google denies them.

Amended Answer at p. 4. Neither of these non-responses is acceptable.

First and foremost, the answer does not provide a good faith complete response to the allegations. Singular is asking Google to admit that it "knew or should have known." Google evasively answers "[t]o the extent this paragraph includes any allegations to which a response is required." Google does not identify which facts it believes a response is, or is not, required. Accordingly, its response is, in reality, a non-response. Under the Rules, Google was required to "parse the allegation and 'admit the part that is true and deny the rest.'" *See, e.g., Revocable Living Trust of Stewart I v. Lake Erie Utils. Co.*, No. 3:14-cv-2245, 2015 WL 2097738, at *3 (N.D. Ohio May 5, 2015); *see also Prasad Indus. v. Flat Irons Env. Solutions Corp.*, No. CV-12-8261, 2013 WL 12212505, at *7 (D. Ariz. Dec. 17, 2013). Thus, Google was required to answer whether Google had or should have had such knowledge. Google's response fails to comply with its obligations. Accordingly, the allegations should be deemed admitted.

Second, Google’s refusal to respond fully because these allegations are directed to legal issues is a non-starter. Willful infringement is a question of fact, not law. *See, e.g., Exmark v. Briggs & Stratton*, 879 F.3d at 1353 (willfulness is solely a question of fact). Moreover, a party is required to respond to allegations of a complaint that may include legal aspects. *See, e.g., Kegerise*, 321 F.R.D. at 124 (“Rule 8(b) does not permit a party to refuse to respond to an allegation by asserting it is a conclusion of law”) (collecting cases). As that Court pointed out: “Defendants are simply incorrect in contending that they could respond to conclusions of law by asserting no response is necessary.” *Id.*; *see also PetroJebba, SA de C.V. v. Betron Enterprises, Inc.*, No. 19-11439, 2019 WL 6496565, at *4 (E.D. Mich. Dec. 3, 2019).

Third, Google’s statement that **“To the extent this paragraph incudes any allegations to which a response is required, Google denies them”** is also patently evasive. By responding:

“[t]o the extent that further response may be required, the paragraph is denied,” [defendant] could be denying none, some, or all of the paragraph. [Plaintiff] and the Court are left to wonder which it is.

Valley Forge Ins. Co. v. Hartford Iron & Metal, Inc., No. 1:14-cv-00006, 2015 WL 5730662, at *3 (N.D. Ind. Sept. 30, 2015).

Google certainly is aware of whether or not it knew of one or both of these patents prior to the launch of the accused TPUv2 in May 2017. Nonetheless, it evasively refuses to provide a straight answer to this simple factual allegation. “An averment will be deemed admitted when the matter is obviously one as to which defendant has knowledge or information.” *Kegerise*, 321 F. Supp. 3d at 125 (citation omitted). Accordingly, the allegations of paragraph 20 should be deemed admitted. *See Bank of Am. N.A. v. Malibu Canyon Investors, LLC*, No. 2:10-cv-00396, 2012 WL 115577, at *3 (D. Nev. Jan. 13, 2012).

B. PARAGRAPH 15

15. As Singular was designing and building prototypes of its new computer, Google was belatedly recognizing the limitations of its conventional computer architectures in providing users with computer-based services such as Translate, Photos, Search, Assistant, and Gmail. According to Google, it was hurtling towards a “scary and daunting” situation. The situation arose as Google was starting to improve these services by running AI software programs on its computers, and as those services consequently became more popular. According to Google, it was “scary and daunting” because the new AI software programs being run on the computers in its data centers required far more computer operations per period than the software programs Google was previously executing. For example, by its own estimation, Google would have to at least double its computing footprint just to keep up with the increased computer requirements being driven by improved AI-based speech recognition services alone. Google realized it needed Dr. Bates’ computer architectures to solve this “daunting” situation.

ANSWER: Google admits that products such as Translate, Photos, Search, Assistant, and Gmail have become more popular over time. Google denies any remaining allegations in this paragraph.

Amended Answer at p. 3. Singular did not ask whether or not Google’s products “have become popular over time.” Google’s evasive answer is also inadequate because Singular and the Court are left to speculate as to which allegations Google may be denying. For example, Google does not deny “all” remaining allegations. Google instead evasively states that “any” remaining allegations are denied. This is insufficient. Obviously, there are additional allegations. Under Rule 8(b), a party has three options in responding to an allegation: (1) to admit it; (2) to deny it, or (3) to state that the party lacks knowledge or information sufficient to form a belief as to the truth of the allegation. *See, e.g., Kegerise*, 321 F.R.D. at 124. “Cryptic responses do not inform [Singular] of whether the denials were based on facts or otherwise.” *Valley Forge v. Hartford Iron*, 2015 WL 5730662, at *3 (citation omitted).

Moreover, Google’s response to at least portions of paragraph 15 is a sham. Singular alleges, *inter alia*, as follows:

For example, by Google's own estimation, Google would have to at least double its computing footprint just to keep up with the increased computer requirements being driven by improved AI-based speech recognition services alone.

See supra. Upon receipt of Google's Amended Answer, in which Google refused to admit these allegations, counsel for Singular wrote to counsel for Google pointing out three Google sources for these allegations. *See* Declaration of Kevin Gannon, Ex. A at p. 2. These sources are: (1) a 2017 Google-authored paper titled "In-Datacenter Performance Analysis of a Tensor Processing Unit"; (2) an interview given by a Google employee (Norman Jouppi) to Wired Magazine in April 2017; and (3) a 2017 public presentation titled "Machine Learning for Systems and Systems for Machine Learning" authored by another Google employee (Jeffrey Dean).¹ Counsel for Singular even quoted the following to counsel for Google from the Dean presentation in order to assist counsel for Google to properly respond:

Google would have to at least double its computing footprint just to keep up with the increased computing requirements being driven by improved AI-based speech recognition services alone.

See Ex. A at p 2; *see also* Dean Podcast *infra*. Thus, Google's refusal to admit these allegations is, Singular submits, baseless. As set forth above, "[a]n averment will be deemed admitted when the matter is obviously one as to which defendant has knowledge or information." *Kegerise*, 321 F. Supp. 3d at 125. Therefore, these allegations should be deemed admitted under Rule 8. *See, e.g., Bank of Am. v. Malibu Investors*, 2012 WL 115577, at *3 (deeming numerous substantive allegations admitted because "[m]ost of the[] complaint allegations involve matters which the Defendants either knew or should have known at the time of the answer after making reasonable inquiry.")

Similarly, paragraph 15 alleges as follows:

¹ Messrs. Jouppi and Dean participated in the design of the accused TPU products.

According to Google, it was hurtling towards a “**scary and daunting**” situation. The situation arose as Google was starting to improve these services by running AI software programs on its computers, and as those services consequently became more popular. According to Google, it was “**scary and daunting**” because the new AI software programs being run on the computers in its data centers required far more computer operations per period than the software programs Google was previously executing.

See supra (bold added). Singular did not conjure up these quotations out of nowhere. To the contrary, the “scary and daunting” quotation was taken directly from Google. More particularly, in a Google podcast, Google’s Head of AI (Jeffrey Dean) explained that:

at the time, we had just lots and lots of CPUs in our data center and if you look at how much computation that would be required if a hundred million of our users started to do that, that was actually kind of *daunting and scary*, we would have essentially ***double the computing footprint*** of Google just to support a slightly better speech recognition model.

See <https://www.gcppodcast.com/post/episode-146-google-ai-with-jeff-dean/> at 11:55-13:16

(bold added). This is a statement by Google’s Head of AI, recorded by or for Google, and posted on a Google website.² Accordingly, Google’s response is a sham and an obvious attempt to avoid admitting that the computing situation at Google was, in fact, “scary and daunting.”

Therefore, these allegations should also be deemed admitted. *See, e.g., Bank of Am. v. Malibu Investors*, 2012 WL 115577, at *3.

C. PARAGRAPH 19

19. During the course of these meetings, Dr. Bates disclosed his computer architectures and prototype. Dr. Bates also advised Google such was patent-protected.

ANSWER: Google admits that Dr. Bates discussed computing theory with certain Google employees. Google is without knowledge or information sufficient to form a belief as to the meaning of “such” in this paragraph, and therefore denies any related allegation in this paragraph. On information and belief, Dr. Bates never advised Google of any particular patents. Google denies any remaining allegations of this paragraph.

² “gcp” as used in this web address is an acronym for Google Cloud Platform.

Once again, Google response is non-responsive and fails to comply with Rule 8b. The allegation requires Google to respond regarding whether or not Dr. Bates “disclosed” his computer architectures and prototype. Google only responds that Dr. Bates “discussed” computing theory. This is totem-pole evasiveness. First, “discussed” is not what Singular alleged. The allegation asserts that Dr. Bates “disclosed” certain information to Google. Second, Google’s response *viz* discussing unidentified “computing theory” avoids answering whether Dr. Bates disclosed **his** computer architectures and prototype to Google.

Google also attempts to frustrate Singular’s pleading by asserting that the word “such” renders the allegation impossible to answer. The word “such” plainly refers to the preceding “computer architectures” and “prototype.” In any event, as set forth above, Google was required to “parse the allegation and ‘admit the part that is true and deny the rest.’” *See, e.g., Stewart I v. Lake Erie Utils.*, 2015 WL 2097738, at *3; *see also Prasad v. Flat Irons*, 2013 WL 12212505, at *7. Thus, Google should have answered by admitting or denying as to each, separately. These allegations should also be deemed admitted.

Google’s response is also insufficient because Singular alleged that Dr. Bates advised Google that his computer architectures and prototype were “patent protected.” Again, Google attempts to evade answering this allegation by stating that Dr. Bates did not advise Google of any “particular patents.” Google’s evasive response “is not a clear admission or denial of the alleged facts, and so it fails to put [Singular] on notice of what the disputed factual issues are in this matter.” *SAP Am., Inc. v. InvestPic, LLC*, No. 3:16-cv-02689, 2017 WL 6884019, at *2 (N.D. Tex. Feb. 22, 2017). The allegations should, therefore, be deemed admitted under Rule 8(b)(6).

D. PARAGRAPH 25

25. Google uses the accused TPuv2 and TPuv3 Devices to provide AI capabilities that enhance the performance and efficacy of its Ads platform (e.g. determining which ads to serve to which users to maximize revenue to Google), as well as its Translate, Photos, Search, Assistant, Cloud and Gmail services. Google provides Translate, Photos, Search, Assistant, Cloud, and Gmail services to the public and leverages public engagement with these services to enhance its Ads platform. As a result, Google services generate at least tens of billions of dollars per year in profit.

ANSWER: Google admits that it uses some TPU devices to support some Google products. Google admits that Google's parent company, Alphabet, Inc., reported worldwide net income of approximately \$34 billion in 2019. Google denies any remaining allegations of this paragraph.

As with its response to Paragraph 19, Google's response to this paragraph is evasive and, therefore, incomplete. Obviously, Google knows whether or not it used the "TPuv2" and "TPuv3" devices to support the specified AI services. The response that it uses "some" unidentified TPU devices to support "some" unidentified Google products is insufficient. Google is required to provide full responses. As in *SAP*, Google has failed to respond properly:

The Court concludes that *SAP* has failed to respond to the substance of the allegations as required under Rule 8. The allegations are clear and direct with each asserting that the accused products in this litigation have a certain feature or characteristic.

Id. at *2.

A party responding to a complaint "is subject to the requirements of honesty in pleading." *Kegerise*, 321 F.R.D. at 125 (citation omitted); *see also* Fed. R. Civ. P. 11(b)(4). With little effort, Google could have provided Singular complete responses to these allegations with information that is indisputably within Google's own possession. For example, on the first page of its cloud.google.com/tpu website, in which it describes its "TPU Offering" as including TPuv2 and TPuv3, Google states as follows:

We built the Tensor Processing Unit (TPU) in order to make it possible for anyone to make similar breakthroughs. Cloud TPU is the custom-designed machine learning that powers Google products like Translate, Photos, Search, Assistant, and Gmail.

See <https://cloud.google.com/tpu>. Where a responding party has such responsive information within its possession, and fails to use such information, it is proper to deem the facts as admitted. See, e.g., *Bank of Am. v. Malibu Investors*, 2012 WL 115577, at *3 (deeming numerous substantive allegations admitted because “[m]ost of the[] complaint allegations involve matters which the Defendants either knew or should have known at the time of the answer after making reasonable inquiry.”)

Also, once again, Google states that it denies “any” remaining allegations of this paragraph. This is insufficient as Google does not deny “all” remaining allegations. Thus, Google has again failed to provide a “clear admission or denial of the alleged facts.” *SAP v. InvestPic*, 2017 WL 6884019, at *2. Singular and the Court are left to speculate as to which allegations fall within the “any remaining facts” that are being denied.

IV. CONCLUSION

For the reasons set forth above, Singular requests that this motion be granted and the allegations of the foregoing paragraphs be deemed admitted.

Dated: August 14, 2020

Respectfully submitted,

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CERTIFICATE OF SERVICE

I certify that on August 14, 2020, I served this document on Defendant by causing a copy to be sent via electronic mail to its counsel of record.

/s/ Paul J. Hayes